

MASTER OF SCIENCE IN ARTIFICIAL INTELLIGENCE (AS OF SPRING 2027)

The Master of Science in Artificial Intelligence (MSAI) program is designed to equip students with both the theoretical foundations and practical skills necessary to design, develop, and deploy intelligent systems. Through advanced and timely coursework in AI principles and methodologies, the program prepares graduates to become innovators and leaders in academia, research, and industry. Students will engage with cutting-edge challenges in fields such as cyber forensics and security, autonomous systems, healthcare and biomedical analytics, blockchain and digital currency, and AI-driven data analytics. Graduates of the program will be well-prepared for professional roles such as AI engineer, data scientist, and machine learning researcher, or to pursue advanced doctoral studies.

Applicants seeking admission to the graduate program in Artificial Intelligence must submit the following directly to the Office of Graduate Admissions (<https://www.shsu.edu/dept/graduate-admissions/prospective-students.html>):

1. Graduate Application (<http://www.shsu.edu/admissions/apply-texas.html>)
2. Application Fee (<http://www.shsu.edu/dept/graduate-studies/application-fee.html>)
3. Official transcript(s) of all previous college work
4. Up-to-date resume
5. Contact information for two references who can address the applicant's qualification for graduate study
6. **International applicants only:** TOEFL or IELTS scores. The minimum requirement for TOEFL is 550 (paper-based), 213 (computer-based), and 79 (internet-based). The minimum requirement for IELTS is 6.5.

Auto-Admission

Auto-admission eligibility is limited to SHSU Computer Science (CS) students who are in their final semester of study toward, or who have already graduated with, a BS degree from the Department of Computer Science and who have a minimum overall undergraduate GPA of 3.0.

SHSU CS students applying for the MSAI program during their final undergraduate semester may be considered for auto-admission. However, final admission is contingent upon successful completion of their BS degree and maintenance of a minimum overall undergraduate GPA of 3.0 at the time of graduation.

Dual Enrollment

SHSU CS students who wish to enroll in graduate-level MS courses offered by the Department of Computer Science during their final undergraduate semester must apply for dual enrollment. Approval for dual enrollment does not guarantee regular admission to an MS program in the Department of Computer Science. At the end of the final semester, the student's admission status will be reviewed to confirm successful completion of the BS degree and continued satisfaction of the minimum overall undergraduate GPA requirement of 3.0. If these requirements are not met, the student may be denied regular admission, placed on probationary admission status, or subject to further review.

Prerequisites

Graduate study in Artificial Intelligence is accessible to students who have completed an undergraduate major or minor in computer science and to students with baccalaureate degrees in related fields who have the equivalent of a computer science minor through formal coursework or professional experience. At a minimum, candidates are expected to present a background comparable to that provided in the following courses as described in the Undergraduate Catalog (<https://catalog.shsu.edu/undergraduate/>) of Sam Houston State University.

Background Courses

Code	Title	Hours
Courses		
COSC 1436	Programming Fundamentals I	4
COSC 1437	Programming Fundamentals II	4
COSC 3318	Data Base Management Systems	3
COSC 3319	Data Structures and Algorithms	3
MATH 1420	Calculus I	4
MATH 3377	Introduction to Linear Algebra and Matrices	3
MATH 3379	Statistical Methods in Practice	3

Students **who have not fulfilled** the prerequisites in formal coursework **are required** to take one or more of the graduate stem courses. These courses **do not apply** towards the degree plan.

Graduate Stem Course Requirements

Code	Title	Hours
Graduate Stem Course Requirements		
COSC 5301	Quantitative Foundations of Computer Science	3
COSC 5302	Computer Science Core Topics	3

Admission decisions are based on a holistic review of each application file and are made on a competitive basis. Preference is given to applicants with an undergraduate GPA of 3.0 or higher.

The MS in Artificial Intelligence requires a minimum of 30 semester credit hours of graduate coursework. Required stem preparation courses do not count toward these 30 hours. The program offers one plan: a non-thesis option.

An MS Project committee will be established either before or during the student's penultimate semester. The committee should consist of a committee chair (supervisor) and a minimum of two additional committee members, all holding the appropriate graduate faculty status. With the approval of the department, academic dean, and Dean of The Graduate School, the committee may include one member who is not employed by SHSU, as per Academic Policy Statement 950601. The selection of the committee chair is based on the student's preference, faculty availability, and faculty expertise. Once a faculty member agrees to serve as chair, the student will select the remaining committee members under the chair's guidance. The committee's composition must then be approved by the Graduate Coordinator and the appropriate dean. Any subsequent changes to the committee's composition must be approved through the same process.

Students in the non-thesis option must pass written and/or oral comprehensive examinations in each core subject for which they earned a grade of B or lower. Examinations are administered during the student's final semester. A student who does not pass one or more examinations may be permitted one re-examination with department approval. A third attempt may be permitted only with the approval of the department and the appropriate academic dean. Students must be enrolled at SHSU during the semester in which the comprehensive examinations are administered.

Once enrolled in COSC 6347, a student must continue to enroll in the course each semester until graduation. Only three semester credit hours of COSC 6347 may be applied toward the degree.

Code	Title	Hours
Master of Science in Artificial Intelligence		
Specified Courses		
COSC 5313	Artificial Intelligence	3
COSC 5314	Programming for Artificial Intelligence	3
COSC 6315	Machine Learning	3
COSC 6323	Responsible Artificial Intelligence	3
COSC 6333	Deep Learning	3
COSC 6347	Programming Practicum	3
Prescribed Electives		
Select four courses from the following:		12
COSC 5340	Special Topics ¹	
COSC 6313	Neural Networks	
COSC 6331	Data Visualization	
COSC 6332	Computer Vision	
COSC 6335	Big Data Analytics	
Total Hours		30

¹ Students can repeat COSC 5340 twice during their program on two different topics.

The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The MS in Artificial Intelligence is designed to provide graduates with the following marketable skills:

- Design and develop intelligent systems capable of learning from data and making autonomous decisions.
- Apply machine learning and deep learning techniques to solve real-world problems in areas such as natural language processing, computer vision, IoT and autonomous systems, and cybersecurity.
- Develop and deploy AI models in scalable environments, integrating them into applications and services that support business and research objectives.
- Evaluate and mitigate risks associated with AI systems, including issues of fairness, bias, interpretability, and security.

- Gain professional competency in AI theory and practice, preparing for technical roles in industry, academia, research, and government that require expertise in artificial intelligence and data-driven decision-making.